

Application No. 09/809,405
Paper Dated: December 29, 2008
In Reply to USPTO Correspondence of September 30, 2008
Attorney Docket No. 5327-010251

REMARKS

The Office Action of September 30, 2008 has been reviewed and the Examiner's comments carefully considered. New claims 18 and 19 have been presented by way of this Amendment. Support for the amendments can be found in Fig. 1 and in paragraph [0023] appearing on page 5 of the specification. Accordingly, claims 1, 3, 4, 6-8 and 11-19 are currently pending in this application, and claim 1 is in independent form.

Rejections Under 35 U.S.C. §103(a):

Claims 1, 3, 4, 6-8 and 11-17 stand rejected under 35 U.S.C. §103(a) for alleged obviousness over European Patent Application Publication No. EP 0254192 to Enkelmann et al. (hereinafter "Enkelmann") in view of U.S. Patent No. 5,793,308 to Rosinski et al. (hereinafter "Rosinski"). This rejection is respectfully traversed.

The present invention, as defined by independent claim 1, is directed to an industrial truck. The industrial truck includes a driver's seat located in a driver's cab of the industrial truck, the driver's seat oriented in a forward direction, at least one screen located in the vicinity of the driver's seat, a counterweight located on a rear of the industrial truck, a first camera pointing toward the rear, the first camera mounted on the rear of the industrial truck to the rear of the driver's seat and above the counterweight at a first height, and two additional cameras directed toward the rear of the industrial truck. The two additional cameras are each mounted on the rear of the industrial truck to the rear of the driver's seat and on an upper segment of the driver's cab at a height greater than the first height, the two additional cameras being spaced outwardly from the first camera on opposing sides of the first camera and each having a diagonally downward directed angle of view. The first camera provides a view of a distant area and the two additional cameras provide a view of a near area behind the industrial truck. The image taken with the first camera and/or the image taken with the two additional cameras can be displayed on the screen.

Applicants respectfully submit that in order to establish a *prima facie* case of obviousness, three criteria must be met. First, the modification or combination must have some reasonable expectation of success. Second, the prior reference or combined references must teach or suggest all the claim limitations. MPEP §2143. Finally, an apparent reason for one of ordinary skill in the art to combine the prior art teachings to reach the claimed invention should be identified. *KSR Int'l Co. v. Teleflex, Inc.*, 82 USPQ2d 1385 (U.S. 2007).

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The analysis of an obviousness finding should be made explicit. *Id.*

Independent claim 1, as amended, recites, *inter alia*, specific claim language as to “two additional cameras directed toward the rear of the industrial truck . . . mounted on the rear of the industrial truck to the rear of the driver’s seat and on an upper segment of the driver’s cab at a height greater than the first height, the two additional cameras being spaced outwardly from the first camera on opposing sides of the first camera and each having a diagonally downward directed angle of view”. Applicants respectfully submit that Enkelmann and Rosinski, taken separately or combined, fail to teach or suggest the above-mentioned claimed subject matter.

Enkelmann discloses a camera 2" in Fig. 2 directed toward the rear of the industrial truck 16. Enkelmann also discloses that a further camera can be mounted at the front or rear of the industrial truck for measurement of the distance of an obstacle. The images of the two cameras looking in the same direction are superimposed so that a computer can calculate the distance of the obstacle. The calculated distance is displayed to the driver (Enkelmann at column 5, lines 14-15). However, Enkelmann also teaches that for this distance measurement, it is necessary that both cameras are mounted at the same height and on a common horizontal plane (Enkelmann at column 5, lines 32-47). The calculated distance can be used for the automatic control of the industrial truck (Enkelmann at column 5, lines 48-56). Further, Enkelmann at column 2, lines 39-50 discloses that the Enkelmann camera is equipped with a different focal length or zoom lens. This allows the driver of the industrial truck to zoom in distant objects (Enkelmann at column 5, lines 46-47). Thus, Enkelmann clearly teaches either a single camera with a zoom lens or different optical length to detect distant objects and near objects, or if an additional camera is used, both cameras are mounted at the same height (Enkelmann at column 5, lines 32-47). As acknowledged by the Examiner, Enkelmann fails to teach or suggest mounting additional cameras at a height greater than the height of the first camera, spaced outwardly from the first camera on opposing sides of the first camera and each having a diagonally downward directed angle of view.

According to the Examiner, Rosinski teaches multiple camera arrangements on the rear of a vehicle as depicted in Figs. 11A-11B or in Figs. 12A-12C, for example. The Examiner asserts that according to these arrangements Rosinski teaches two additional cameras being mounted on the rear of the industrial truck, the two additional cameras being

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spaced outwardly from the first camera on opposing sides of the first camera and that Fig. 12B of Rosinski demonstrates an arrangement. Further, the Examiner asserts that the claimed subject matter of the two additional cameras being mounted above the first camera and having a downwardly directed angle of view is obvious as a matter of design choice.

With respect to the Examiner's comments, Applicants respectfully submit that the teachings of a prior art reference must be considered **as a whole**, including those portions that would lead away from the claimed invention. MPEP §2141.02(VI).

Rosinski specifically states the following at column 4, lines 33-36:

"Either of the imager arrangements is preferably operated with imagers (lenses or cameras) located as shown in FIGS. 4-16. Further, each system is preferably used with fish-eye lenses to obtain a maximum field of vision for each imager."

Thus, Rosinski teaches the use of multiple cameras providing the same field of view of the rear of the vehicle but at different heights utilizing fish-eye (extreme wide-angle lenses). In contrast to the present invention, Rosinski does not teach or suggest a camera configuration where two additional cameras are mounted on the rear of a vehicle above the height of a first camera, which are spaced outwardly from the first camera on opposing sides of the first camera and each have a diagonally downward directed angle of view. Moreover, Rosinski does not teach or suggest that any of the cameras have a diagonally downward directed angle of view, as is claimed. Please note Figs. 4-16 of Rosinski, none of which teaches a configuration of cameras as claimed. Thus, Rosinski fails to fairly suggest a modification to the industrial truck taught by Enkelmann that reaches the claimed invention.

Moreover, Applicants respectfully submit that there would be no rationale or benefit to one of ordinary skill in the art in modifying or altering the configuration of cameras taught by Rosinski, or by the suggested combination of the teachings of Enkelmann and Rosinski in order to meet the above-mentioned claimed subject matter of claim 1. Rosinski teaches the use of fish-eye (extreme wide-angle) lenses. As is known in the art, a fish-eye lens is designed to provide a 180° angle of view in two directions. Thus, a centrally located single camera disposed on the rear of the vehicle at or near the top is sufficient to provide a view of the entirety of an area behind the vehicle. In fact, this is the typical configuration taught by Rosinski, as demonstrated by Figs. 4C, 6B, 7A, 8A, 9A, 10B, 12B, 13A, 15C and 15D of Rosinski. Providing two additional cameras at or near the top of the vehicle at a level above the central camera, as claimed, would be redundant.

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Further, with respect to the configuration of cameras taught by Rosinski in Fig. 12B particularly, Rosinski teaches two rearward-directed cameras mounted on the side mirrors at the front of the vehicle, likely in order to provide the driver with views directed alongside the length of the vehicle so that the driver has a view of other vehicles or pedestrians in the driver's blind spots at the sides of the vehicle. Moving these cameras to the rear of the vehicle, as suggested by the Examiner, would eliminate the view alongside the vehicle. Thus, one of ordinary skill in the art would see no rationale or benefit in moving the side cameras taught by Rosinski to the rear of the industrial truck taught by Enkelmann.

Moreover, as is known in the art, fish-eye or extreme wide-angle lenses, suffer from a certain amount of distortion, especially at the peripheral areas. Thus, one of ordinary skill in the art would see no rationale or benefit to mounting two fish-eye lens cameras so that each camera would have a diagonally downward directed angle of view since such a configuration would result in a larger distortion of the view directly behind the vehicle, precisely where an accurate view is needed the most, than if the camera or cameras were directed straight behind the vehicle, as is taught by Rosinski. The rejection is therefore improper.

Applicants submit that independent claim 1 is allowable for at least the foregoing reasons, as the teachings of the prior art of record, including Rosinski, are not sufficient to overcome the deficiencies in the teachings of Enkelmann with respect to claim 1. Applicants respectfully request that the rejection of claim 1 be withdrawn.

Claims 3, 4, 6-8 and 11-17 are dependent upon and add further limitations to independent claim 1 and are allowable for at least the same reasons discussed hereinabove in connection with independent claim 1. Applicants respectfully request that the rejection of claims 3, 4, 6-8 and 11-17 be withdrawn.

New claims 18 and 19 have been presented, which are dependent upon and add further limitations to independent claim 1 and are allowable for at least the same reasons discussed hereinabove in connection with claim 1. Additionally, these claims contain specific subject matter as to the two additional cameras providing a view of a rear area directly behind the industrial truck or the counterweight of the industrial truck. As discussed above, the upper, outwardly spaced cameras taught by Rosinski, referred to by the Examiner as being at the rear of the vehicles are, in fact, disposed in the side rearview mirrors of the vehicles and do not provide a view of the rear area directly behind the vehicles. Moreover, as

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also discussed above, one of ordinary skill in the art would see no rationale or benefit to angling the cameras taught by Rosinski diagonally downward to provide a view of a rear area directly behind the vehicle, as is claimed, since doing so would result in a distorted the view of the rear area due to that nature of the extreme wide angled lenses taught by Rosinski. Claims 18 and 19 are therefore allowable for these reasons as well.

Conclusion

In view of the above amendments and remarks, reconsideration of the rejections and allowance of claims 1, 3, 4, 6-8 and 11-19 are respectfully requested.

Respectfully submitted,
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